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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,678	08/11/2000	Daryoosh Vakhshoori	CORE-57	1592

7590 11/25/2002

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Waltham, MA 02451-1914

EXAMINER
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NGUYEN, JOSEPH H

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/639,678

Applicant(s)

VAKHSHOORI ET AL.

Examiner

Joseph Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Kullander-Sjoberg et al.

Regarding claim 1, Kullander-Sjoberg et al discloses a method for modulating the output of an optically pumped, tunable VCSEL wherein said method comprises the steps of optically pumping the VCSEL 9 with a pump laser 1 so as to cause the VCSEL to generate an output, and modulating the output light power of the pump laser so as to modulate the carrier population in the VCSEL's active region whereby to modulate the output of the VCSEL (col. 2, lines 33-38).

Regarding claim 2, Kullander-Sjoberg et al discloses a method for modulating the output of an optically pumped, tunable VCSEL wherein said method comprises the

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steps of optically pumping the VCSEL9 with a pump laser 1 so as to cause the VCSEL to generate an output and applying a voltage across the VCSEL's active region so as to alter the optical power circulating in the VCSEL's cavity whereby to increase or decrease the output power of the VCSEL (col. 2, lines 40-50).

### ***Response to Arguments***

Applicant's arguments filed on 10/15/2002 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues that Kullander-Sjoberg et al does not disclose the step of modulating the output light power of the pump laser so as to modulate the carrier population in the VCSEL's active region. However, Kullander-Sjoberg et al clearly teaches that the pump 1 operating at 980 nm is activated by applying a DC bias between its bottom contact 5 and the bottom mirror 8 of the VCSEL 9 (col. 2, lines 33-38). Therefore, the output light power of the pump laser is hereby modulated, thereby creating a population inversion in the VCSEL's active region (col. 2, line 35-36) as recited in claim 1,

With respect to claim 2, applicant argues that Kullander-Sjoberg et al does not disclose a method for modulating the output of an optically pumped, tunable VCSEL comprising the step of applying a voltage across the VCSEL's active region so as to alter the optical power circulating in the VCSEL's cavity whereby to increase to decrease the output power of the VCSEL. However, Kullander-Sjoberg et al teaches, "the VCSEL 9 is modulated by using an external electrical field applied perpendicular to

the active layer 10, employing the Stark-effect to deliberately change the band-gap of the active layer 10 and hence move the emission wavelength into and out of resonance with optical cavity formed between the top and bottom mirrors” (col. 2, lines 42-48). As such, Kullander-Sjoberg et al clearly discloses a method for modulating the output of an optically pumped, tunable VCSEL comprising the step of applying a voltage across the VCSEL’s active region so as to alter the optical power circulating in the VCSEL’s cavity whereby to increase to decrease the output power of the VCSEL.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN

November 18, 2002



EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
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